DESCRIPTION AMENDMENTS

Rewrite the paragraph beginning on page 2, line 21, to read as follows:

The patent application EP 866142 relates to a NiMnGa alloy, particularly to the chemical form $Ni_{2+x}Mn_{1-x}Ga$ of said alloy, where the parameter x (in moles) is selected within the ~~range 0,10 <=x<=0,30~~ range 0.10 <= x <= 0.30. With this composition, the finish temperature of the martensitic transformation can be selected as a desired temperature between -20° C and 70° C, whereas the Curie temperature can be selected as a desired temperature between 60° C and 85° C. In the memory metal feature of the alloy, there is connected martensitic transformation Ms ? Mf and reverse transformation $A_s \rightarrow A_f$. A typical feature of the NiMnGa alloy described in the EP patent application is that the reverse transformation is in the martensite phase achieved by means of an external magnetic field, and as a result, the shape memory is recovered. In the EP patent application 866,142, there is described how the treated NiMnGa alloys are manufactured as follows: the NiMnGa alloy ingots were produced by mixing the alloy ingredients, by melting the mixture by the argon arch method and by casting it into ingots. Thereafter the ingots were ground into NiMnGa alloy powder. The powder was screened to the particle sized below 250 mesh, and it was further compacted into a bar with a diameter of 5 mm. The compacted bar was sintered at the temperature of 800° C for the duration of 48 hours. For the obtained alloy, there was defined the finish temperature A_f of the reverse transformation and the Curie temperature T_c. Consequently, in the production of the alloy according to the EP patent application 866,142, for instance the crystal structure of the alloy or the effect of the crystal structure in the memory metal properties were not in any way taken into account. Further, in the method according to the EP patent application 866,142, there is utilized powder metallurgy, which as such makes the production difficult and thus increases the manufacturing expenses.

Rewrite the paragraph beginning on page 4, line 7 to read as follows:

According to the invention, in order to create the metal alloy, the nickel, manganese and gallium contained in the alloy are charged, preferably as Ni-Mn and/or Ni-Ga master alloys, and the precision is

carried out by pure metal. The master alloys are advantageously produced so that the lowest material is gallium with the lowest melting temperature (30° C), on top of it there is placed manganese (1246° C) and topmost nickel (1455° C). The melting of the master alloy is preferably carried out inductively at the temperature of 1500° C, in which temperature the melt is kept for about 1 hour in order to homogenize the alloy, ~~whereafter it~~ whereafter the master alloy is cooled and crushed into pieces that fit in the crucible. The metal alloy proper, NiMnGa, is advantageously produced so that lowest on the bottom there is placed the precision metal, and on top of it, the master alloy or alloys. Melting is preferably carried out inductively at the ~~temperature 1300 °C~~ temperature 1300° C, in which temperature the melt is kept for about 1 hour in order to homogenize the alloy. The casting of the metal alloy NiMnGa is performed at the temperature of ~~about 1180 °C~~ about 1180° C, and the temperature of the furnace of directional solidification is advantageously ~~about 1130 °C~~ about 1130° C. The evaporation of volatile components, such as manganese and gallium, is controlled by adjusting in the furnace an underpressure within the range 20- 200 mbar.

Rewrite the paragraph beginning on page 4, line 26, to read as follows:

~~The casting piece obtained in the method according to the invention is homogenized in protective gas atmosphere within the temperature range 800-1000° C, in which temperature range the stability area of the so-called Heusler phase contained in the nickel-manganese-gallium alloy is preferably large. The employed protective gas can advantageously be for instance argon, nitrogen or a combination thereof.~~

Rewrite the paragraph beginning on page 5, line 1, to read as follows:

The solidification of a casting piece obtained in the method according to the invention is advantageously carried out at 10-100° C below the liquidus temperature of the metal alloy. The solidification rate of the casting piece is within the ~~range 0,1-50 mm/min~~ range 0.1-50 mm/min, preferably 1-20 mm/min. In the solidification process, there is advantageously used a temperature gradient furnace

substantially in standard conditions, in which furnace the heat is essentially conducted away from the lengthwise direction of the cast molding. Thus the solidification temperature is changed in an essentially even fashion, and the obtained crystal structure for the solidified metal alloy is a directional texture structure. As a consequence of directional solidification, there is achieved a strongly anisotropic casting, as the mechanically weak granule borders are set in the lengthwise direction of the casting. Hence for example the strength properties of the casting are different in different directions.

The casting piece obtained in the method according to the invention is homogenized in protective gas atmosphere within the temperature range 800-1000° C, in which temperature range the stability area of the so-called Heusler phase contained in the nickel-manganese-gallium alloy is preferably large. The employed protective gas can advantageously be for instance argon, nitrogen or a combination thereof.

Delete the table on page 5, line 19, and replace with the following:

Alloy	Ni at%	Mn at%	Ga at%	M_s °C	M_f °C	A_s °C	A_f °C	T_c °C
1	49.6	28.4	22	33	31	37	40	99
2	48.5	30.3	21.2	28.5	26	32	35	99
3	48.4	31.1	20.5	34	32	42	45	97
4	50.7	27.8	21.5	52	50	58	61	98
5	48.9	30.8	20.3	51.3	48	58.5	62	96.8
6	49.9	29.9	20.2	70.6	65	76.7	81.1	95.7
7	50.5	29.4	20.1	78.6	68.4	75.4	86	93